

DESCRIPTION OF A NEW INDIAN GALL-MIDGE (DIPTERA:
CECIDOMYIIDAE: LASIOPTERIDI) CAUSING GALLS ON
ACHYRANTHES ASPERA LINN. (AMARANTHACEAE)¹

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(With fourteen text-figures)

Lasioptera achyranthesae sp. nov., causing galls on leaf and stem of *Achyranthes aspera* Linn. in Marathwada region of Maharashtra State, has been fully described and illustrated.

INTRODUCTION

Lasioptera Meigen, basically a phytophagous genus, is widely distributed all over the world. However, a few species of this genus are associated with ambrosia-fungi. A perusal of literature (Felt 1940, Mani 1934, 1973) revealed that galls caused by species of *Lasioptera* are mostly on stems, a few are on leaves; many of these are not apparent; some of them slightly swollen and species-associated with grasses (infesting inflorescence) however, do not show any marked deformity.

The recorded host plants of this genus are from a wide range of natural orders in dicotyledons, especially Cucurbitaceae, and galls in general are rare among monocotyledons, barring reports on Graminae and one unnamed species reported to cause shoot axis galls on *Cyanotis cristata* (Commelinaceae) (Shivarama-krishna 1981).

Mani (1973) has reported gall no. 523 and leaf gall no. 815 as caused by *Lasioptera*(?) and unknown Itonididae respectively on *Achyranthes aspera* Linn. from Coromandel coast. Probably he could not collect adults from these galls and thus did not describe the species. I have collected stem and leaf galls on the same host plant from Aurangabad, Marathwada region of Maharashtra State

during August and September in 1976, 1977 and 1980, and could rear a number of adult midges from these galls. On closer examination it was found to be different from known species. So the opportunity is utilised for describing it as a new species.

So far, genus *Lasioptera* is represented in India by 17 named species (Gover 1981), one more was added by Rao & Sharma (1977), the present species is the 19th.

***Lasioptera achyranthesae*, sp. nov. (Figs. 1-14)**

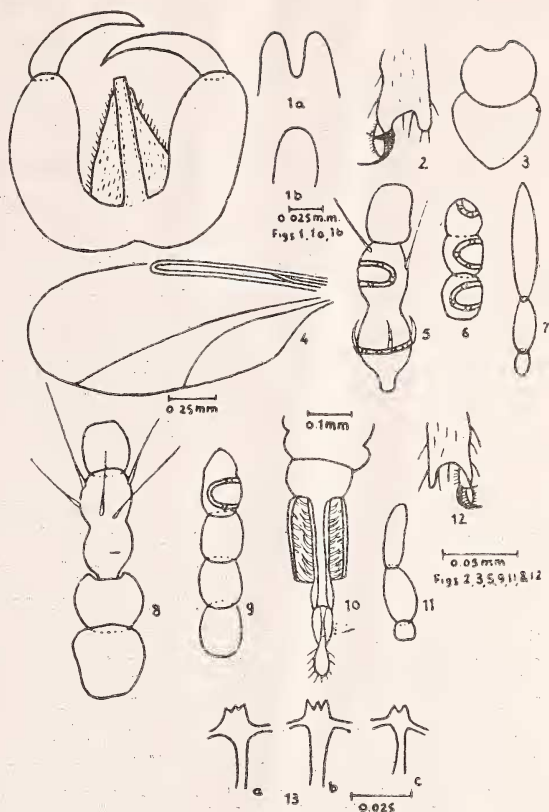
MALE: Body 1.60 mm long; eyes confluent above; trophi normal; palpus triarticulate, short, sparsely setose; first segment (8:5) cylindrical, length $1.60 \times$ its maximum thickness; second segment (15:7) cylindrical, length slightly more than $2.00 \times$ its maximum thickness; third segment (29:6) cylindrical, longest of all, length slightly less than $5.00 \times$ its maximum thickness. *Antenna*: 0.25 the length of the body, with 2+13 segments (in holotype), variable from 2+11 to 12; segments cylindrical, sessile, gradually shortened distally, with two whorls of setae, circumfila low; scape (19:22) cup-shaped, pedicel (15:19) subglobose; third segment (19) confluent with and longer than fourth, with a short basal prolongation (4:5), enlargement (15:12) $1.25 \times$ as long as thick; fourth segment (15) with an enlargement (15:12) $1.25 \times$ as long as thick; fifth segment similar to the fourth; penultimate segment (10:9) with an enlargement slightly longer than thick; terminal segment (9:8)

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shortest of all, conical, enlargement slightly longer than thick. *Wing* (75:20) hyaline, $3.75\times$ as long as broad; costa scaled, vein R_1 short, vein R_5 meeting costa slightly beyond the middle of the wing and interrupting at its union; vein M_{1+2} entire, vein C_u simple. *Legs* long, densely hairy, metatarsus (11) half the length of the terminal tarsal segment (22), second segment (110) longest of all, shorter than the following segments combined together (117); claw dentate on all legs, evenly curved; empodium as long as claw (14:14). *Genitalia*, light brown, basal clasp segment (59:29) cylindrical, without basal lobe, length nearly $2.00\times$ its maximum thickness; terminal clasp segment (40:8) slender, curved, gradually tapering towards the tip, ending in a tooth, 0.60 the length of the basal clasp segment and $5.00\times$ as long as thick; dorsal plate (25:35) deeply bilobed, lobes rounded apically; setose; subdorsal plate (15:12) entire, rounded apically; shorter and narrower than dorsal plate, hairy; parameres heavily sclerotized, triangular fringed with short, recurved setae, longer than dorsal plate, shorter than aedeagus, bifid apically; aedeagus (49:5) cylindrical, shorter than basal clasp segment, truncate apically, length $9.80\times$ its maximum thickness.

FEMALE: Body 1.66 mm long (including ovipositor); *palpus* triarticulate; first segment (5:5) short, globose; second segment (14:7) cylindrical, twice as long as thick; third segment (18:5) cylindrical, longest of all, length $3.60\times$ its maximum thickness. *Antenna* 0.25 the length of the body, with 2+14 segments (in allotype), variable from 2+13 to 17; segments subcylindrical, sessile, gradually shortened distally, enlargements with two whorls of long setae, circumfila low; scape (16:16) cup-shaped, as long as broad; pedicel (15:16) subglobose; third segment (16) confluent with and longer than fourth; enlargement (14:13)



Figs. 1-13. *Lasioptera achyranthesae* sp. nov.
(1-7 ♂): 1. Genitalia; 1a. dorsal plate; 1b. subdorsal plate; 2. claw; 3. scope and pedicel; 4. wing; 5. third, fourth and fifth antennal segments; 6. terminal three antennal segments; 7. palpus.
(8-12 ♀): 8. scape, pedicel, third, fourth and fifth ant. segments; 9. terminal four antennal segments; 10. ovipositor; 11. palpus; 12. claw; 13. a. b. c. Sternal Spatulæ.

slightly longer than thick; fourth segment (14) with an enlargement (14:13) slightly longer than broad; fifth segment similar to the fourth; penultimate segment (12:10) $1.20\times$ as long as thick; terminal segment (16:10) longer than penultimate, length $1.60\times$ its maximum thickness. *Wing*, legs and claw as in male. *Ovipositor*: 0.25 the length of the body, usual lasiopteran type, three rows of spines up to

the middle; terminal lobe bulbous, setose, (20:11) less than twice as long as broad. *Larva*: Whitish when young, turns reddish brown as it grows old. First instar measures 0.41-0.43 mm, second instar 0.72-1.06 mm and third instar varies from 1.35-2.08 mm in length. Sternal Spatula 0.18-2.29 mm long, distally incised by a V-shaped or W-shaped emargination forming 2-3 triangular lobes, shaft moderately sclerotized. *Sex-ratio*. In this species females outnumber the males and there appears to be only one generation in a year. *Parasites*. Three species of braconids and a chalcid (Hymenoptera) were found to parasitize midge larvae.

Holotype ♂, Allotype ♀ and Paratypes 6 ♂♂ 5 ♀♀ dissected and mounted on slides, 7 larvae on slides, ex leaf and stem galls, *Achyranthes aspera* Linn. (Amarantaceae); University Campus, Aurangabad, India, 3.ix.1976, Coll. R. M. Sharma. Subsequently reared in September, 1977 and Aug.-Sept. 1980. Types are deposited in the collections of Z.S.I., Pune for the time being and will be deposited in National Zoological Collections, Z.S.I., Calcutta.

Distribution: Maharashtra (Marathwada), Coromandel coast (Mani 1973).

Remarks: This species comes close to *L. crataevae* (Mani 1934), the only species known to have triarticulate palpi, but can be separated from it in having different proportions of palpal segments, different number of antennal segments; empodium as long as claw and ovipositor lobe bulbous and setose.

Galls: *Leaf-gall*. Mostly hypophyllous, subglobose, ovoid or fusiform, solitary, solid, glabrous, pale green when young, turn reddish-brown as they grow old, indehiscent, persistent swellings of the midrib or of the larger lateral veins; at times on apical part of the petiole which extends beyond the midrib (as noted by Mani 1973). Larval cavity axial

monothalamous (enclosing a single larva inside). Ostiole hypophyllous. Usually single gall per leaf, sometimes 4-5 galls may arise on midrib of a single leaf. Size 5-7 mm long, 3-5 mm thick. This gall is practically similar to Mani's gall no. 815 (Mani 1973) reported from Coromandel coast, and may be the same species causing galls.

Stem-gall: Elongated, cylindrical, subglobose or irregular, solitary, solid, hard, woody, costate, tomentose, indehiscent persistent gall; greenish or reddish when young, becoming yellowish-brown or dark-brown as it grows old. Gall



Fig. 14. Leaf and stem galls on *A. aspera* caused by *L. achyranthesae* sp. nov.

cavity unilocular, enclosing a single larva inside. Pupation takes place inside the gall in both leaf and stem galls. Size 7-19 mm long and 7-8 mm thick. 1-3 galls may arise on a single twig. Galls were observed from August to September, but infestation is at its peak during late August and early September. *Apamargamyia orientalis* Sharma & Rao (1978) was bred from stem galls along with this new species which is probably inquiline species

living in the galls produced by *Lasioptera achyranthesae*.

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ON A NEW SPECIES OF *DIAPARSIS* FOERSTER (HYMENOPTERA: ICHNEUMONIDAE: TERSILOCHINAE) FROM INDIA¹

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(With three text-figures)

Diaparsis nikami, sp. nov. is described and illustrated. A key to the Oriental species of *Diaparsis* is provided.

INTRODUCTION

Diaparsis Foerster is a large genus, widely distributed in Holarctic, Oriental and Ethiopian regions but not yet known from the

Neotropic and Australian regions (Townes 1971). In the Orient this genus is known only from India. Townes, Townes & Gupta (1961) included two Indian species viz., *Diaparsis caudata* Morley, 1913 and *D. sancti-johanni* Rao & Kurian, 1951 in their catalogue from the Indo-Australian region. In the present work, a new species, *D. nikami* is described and a key to the Oriental species of *Diaparsis* is provided.

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